

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product form : Mixture
 Product name : AUDIT[®] 4:1 HERBICIDE
 Other means of identification : EPA Reg. No. 66330-419

1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/mixture : Herbicide

1.3. Details of the supplier of the safety data sheet

Arysta LifeScience North America LLC
 15401 Weston Parkway, Suite 150
 Cary, NC 27513 - USA

1.4. Emergency telephone number

Emergency number : Exposure Calls (PROSAR): +1-866-303-6952 or +1-651-603-3432 (international)
 Spill Calls (CHEMTREC) (Contract # CCN1779): +1-800-424-9300 or +1-703-527-3887 (international)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

GHS-US classification

Carc. 1A H350
 Full text of H-statements: see section 16

2.2. Label elements

GHS-US labelling

Hazard pictograms (GHS-US) :



GHS08

Signal word (GHS-US) : Danger
 Hazard statements (GHS-US) : H350 - May cause cancer
 Precautionary statements (GHS-US) : P201 - Obtain special instructions before use
 P202 - Do not handle until all safety precautions have been read and understood
 P280 - Wear eye protection, protective gloves
 P308+P313 - If exposed or concerned: Get medical advice/attention
 P405 - Store locked up
 P501 - Dispose of contents/container to an authorised waste collection point

2.3. Other hazards

Other hazards not contributing to the classification : Combustible dust.

2.4. Unknown acute toxicity (GHS-US)

0.33 percent of the mixture consists of ingredient(s) of unknown acute toxicity (Oral)
 0.33 percent of the mixture consists of ingredient(s) of unknown acute toxicity (Dermal)
 0.33 percent of the mixture consists of ingredient(s) of unknown acute toxicity (Inhalation (Dust/Mist))

SECTION 3: Composition/information on ingredients

3.1. Substance

Not applicable

3.2. Mixture

Exact concentrations withheld as trade secret.

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Name	Product identifier	%	GHS-US classification
Thifensulfuron methyl	(CAS No) 79277-27-3	30 – 50	Aquatic Acute 1, H400 Aquatic Chronic 1, H410
Tribenuron methyl	(CAS No) 101200-48-0	5 – 15	Skin Sens. 1, H317 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
Titanium dioxide	(CAS No) 13463-67-7	< 1	Carc. 2, H351
Silicon dioxide (cristobalite)	(CAS No) 14808-60-7	< 1	Carc. 1A, H350

Full text of H-statements: see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

- First-aid measures general : Never give anything by mouth to an unconscious person. Get medical advice/attention if you feel unwell.
- First-aid measures after inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.
- First-aid measures after skin contact : Wash with plenty of soap and water. Take off contaminated clothing and wash it before reuse.
- First-aid measures after eye contact : If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- First-aid measures after ingestion : Do NOT induce vomiting. Rinse mouth. Get medical advice/attention.

4.2. Most important symptoms and effects, both acute and delayed

- Symptoms/injuries after inhalation : May cause cancer by inhalation.

4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

- Suitable extinguishing media : Carbon dioxide. Dry chemical. Foam. Water fog.
- Unsuitable extinguishing media : Do not use a solid water stream as it may scatter and spread fire.

5.2. Special hazards arising from the substance or mixture

- Fire hazard : Combustible.
- Explosion hazard : Dust may form explosive mixture in air.
- Reactivity : No dangerous reactions known.

5.3. Advice for firefighters

- Firefighting instructions : Do not allow run-off from fire fighting to enter drains or water courses. Exercise caution when fighting any chemical fire.
- Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection. Use self-contained breathing apparatus.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

- General measures : Avoid creating or spreading dust. Avoid contact with skin and eyes.

6.1.1. For non-emergency personnel

- Protective equipment : Chemical goggles or safety glasses. Dust impervious gloves.
- Emergency procedures : Evacuate unnecessary personnel.

6.1.2. For emergency responders

- Protective equipment : Chemical goggles or safety glasses. Dust impervious gloves.
- Emergency procedures : Ventilate area.

6.2. Environmental precautions

Prevent dispersion. Prevent entry to sewers and public waters. Notify authorities if product enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

- For containment : Avoid generating dust. Eliminate all ignition sources.
- Methods for cleaning up : Sweep spilled substance into containers; if appropriate, moisten first to prevent dusting.

6.4. Reference to other sections

Section 13: disposal information. Section 7: safe handling. Section 8: personal protective equipment.

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SECTION 7: Handling and storage

7.1. Precautions for safe handling

- Precautions for safe handling : Obtain special instructions before use. Do not handle until all safety precautions have been read and understood.
- Hygiene measures : Always wash your hands immediately after handling this product, and once again before leaving the workplace.

7.2. Conditions for safe storage, including any incompatibilities

- Storage conditions : Keep container closed when not in use. Do not store near food, foodstuffs, drugs, or potable water supplies.
- Incompatible products : Strong oxidizing agents. Acids.
- Heat and ignition sources : Keep away from heat, sparks and flame.
- Prohibitions on mixed storage : Incompatible materials.
- Storage area : Store in dry, cool, well-ventilated area.

7.3. Specific end use(s)

Herbicide.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

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ACGIH	Not applicable	
OSHA	Not applicable	
Thifensulfuron methyl (79277-27-3)		
ACGIH	Not applicable	
OSHA	Not applicable	
Tribenuron methyl (101200-48-0)		
ACGIH	Not applicable	
OSHA	Not applicable	
Silicon dioxide (cristobalite) (14808-60-7)		
ACGIH	ACGIH TWA (mg/m ³)	0.025 mg/m ³
ACGIH	Remark (ACGIH)	(respirable dust)
OSHA	OSHA PEL (TWA) (ppm)	250 mppcf
OSHA	Remark (OSHA)	(3) See Table Z-3.
Titanium dioxide (13463-67-7)		
ACGIH	ACGIH TWA (mg/m ³)	10 mg/m ³
OSHA	OSHA PEL (TWA) (mg/m ³)	15 mg/m ³

8.2. Exposure controls

- Appropriate engineering controls : Avoid dispersal of dust in the air (ie, clearing dust surfaces with compressed air). Use only outdoors or in a well-ventilated area.
- Personal protective equipment : Avoid all unnecessary exposure.
- Hand protection : Dust impervious gloves.
- Eye protection : Chemical goggles or safety glasses.
- Respiratory protection : Where excessive dust may result, use approved respiratory protection equipment. Use air-purifying respirator equipped with particulate filtering cartridges.
- Other information : Do not eat, drink or smoke when using this product.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

- Physical state : Solid
- Appearance : Granules
- Colour : Tan

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Odour	: Slight
Odour threshold	: No data available
pH	: 5.16 (1% suspension)
Melting point	: No data available
Freezing point	: No data available
Boiling point	: No data available
Flash point	: No data available
Relative evaporation rate (butyl acetate=1)	: No data available
Flammability (solid, gas)	: No data available
Explosive limits	: No data available
Explosive properties	: Dust may form explosive mixture in air.
Oxidising properties	: No data available
Vapour pressure	: No data available
Relative density	: No data available
Relative vapour density at 20 °C	: No data available
Density	: 40 lb/ft ³
Solubility	: Water: Solubility in water of component(s) of the mixture : • Thifensulfuron methyl: 23.6 g/l
Log Pow	: No data available
Log Kow	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Viscosity	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

No dangerous reactions known.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

Hazardous polymerization will not occur.

10.4. Conditions to avoid

Heat. Avoid dust production.

10.5. Incompatible materials

Strong oxidizing agents. Acids.

10.6. Hazardous decomposition products

Thermal decomposition generates : Carbon oxides (CO, CO₂). Nitrogen oxides. Sulphur oxides. Calcium oxide. Burning produces irritating, toxic and noxious fumes.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Likely routes of exposure : Inhalation; Skin and eye contact

Acute toxicity : Not classified

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LD50 oral rat	> 5000 mg/kg
LD50 dermal rat	> 5000 mg/kg
LC50 inhalation rat (mg/l)	> 2.1 mg/l/4h
Thifensulfuron methyl (79277-27-3)	
LD50 oral rat	> 5000 mg/kg

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Thifensulfuron methyl (79277-27-3)	
LD50 dermal rabbit	> 2000 mg/kg

Tribenuron methyl (101200-48-0)	
LD50 oral rat	> 5000 mg/kg
LD50 dermal rabbit	> 2000 mg/kg

Titanium dioxide (13463-67-7)	
LD50 oral rat	> 5000 mg/kg
LC50 inhalation rat (mg/l)	> 6.82 mg/l/4h

Skin corrosion/irritation	: Not classified (Slightly irritating to skin)
Serious eye damage/irritation	: Not classified (Slightly irritant but not relevant for classification)
Respiratory or skin sensitisation	: Not classified (No sensitizing reaction was observed for guinea pigs)
Germ cell mutagenicity	: Not classified Neither in vitro nor in vivo tests on Thifensulfuron-methyl demonstrated mutagenic effects. Tribenuron-methyl did not produce genetic damage in bacterial or mammalian cell cultures or in animals.
Carcinogenicity	: May cause cancer. Repeated overexposure to thifensulfuron-methyl may cause effects to liver, gall bladder, and blood chemistry. Repeated overexposure to tribenuron methyl may cause effects to body weight loss, alteration in clinical chemical parameters and testicular atrophy (considered to be biologically insignificant). No carcinogenic effects were observed in animal tests with thifensulfuron-methyl. Tribenuron methyl produced an increased incidence of mammary tumors in female rats at dose levels also producing other significant effects. This product contains a clay. Crystalline silica (e.g. quartz) and titanium dioxide are a naturally occurring components of clay. Inhalation of crystalline silica may cause pulmonary fibrosis (silicosis). Crystalline silica has been classified by IARC as carcinogenic to humans (Group 1), by the U.S. National Toxicology Program as a known human carcinogen and by ACGIH as a suspected human carcinogen (A2). Inhalation of titanium dioxide may cause irritation to the respiratory system. IARC lists exposure to titanium dioxide as a class 2B carcinogen, the category for limited evidence for carcinogenicity in humans.

Silicon dioxide (cristobalite) (14808-60-7)	
IARC group	1 - Carcinogenic to humans, Inhalation of dust

Titanium dioxide (13463-67-7)	
NOAEL (chronic, oral, animal/male, 2 years)	5 mg/kg bodyweight rat
IARC group	2B - Possibly carcinogenic to humans, as dust

Reproductive toxicity	: Not classified Animal tests with thifensulfuron-methyl have not demonstrated reproductive effects. For tribenuron-methyl no reproductive effects were observed in rats.
Specific target organ toxicity (single exposure)	: Not classified
Specific target organ toxicity (repeated exposure)	: Not classified Repeated ingestion exposures to thifensulfuron-methyl caused decreased body and organ weights, and some blood chemistry changes, including increased blood urea nitrogen and decreased protein and globulins. Repeated ingestion exposure to tribenuron-methyl may cause body weight loss and effect liver and thyroid.
Aspiration hazard	: Not classified
Symptoms/injuries after inhalation	: May cause cancer by inhalation.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - water : Very toxic to aquatic life with long lasting effects.

Thifensulfuron methyl (79277-27-3)	
LC50 fish 1	> 100 mg/l 96 h Bluegill, Rainbow trout
EC50 Daphnia 1	470 mg/l 48 h

Tribenuron methyl (101200-48-0)	
LC50 fish 1	> 1000 mg/l 96 h Bluegill, Rainbow trout
EC50 Daphnia 1	720 mg/l 48 h

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12.2. Persistence and degradability

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Persistence and degradability	May cause long-term adverse effects in the environment.
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12.3. Bioaccumulative potential

No additional information available

12.4. Mobility in soil

Thifensulfuron methyl (79277-27-3)

Log Koc	13 - 55 Koc
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12.5. Other adverse effects

Effect on the global warming : No known ecological damage caused by this product.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste treatment methods : Do not dispose in household garbage.
Sewage disposal recommendations : Do not dispose of waste into sewer.
Waste disposal recommendations : Dispose in a safe manner in accordance with local/national regulations.
Ecology - waste materials : Avoid release to the environment.

SECTION 14: Transport information

Department of Transportation (DOT)

In accordance with DOT

Not considered a dangerous good for transport regulations

Additional information

Other information : No supplementary information available.

ADR

Transport document description : UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Thifensulfuron methyl, Tribenuron Methyl), 9, III, (E)
Packing group (ADR) : III
Class (ADR) : 9 - Miscellaneous dangerous substances and articles
Hazard identification number (Kemler No.) : 90
Classification code (ADR) : M7
Danger labels (ADR) : 9 - Miscellaneous dangerous substances and articles



Orange plates :



Tunnel restriction code (ADR) : E
Limited quantities (ADR) : 5kg
Excepted quantities (ADR) : E1

Transport by sea

UN-No. (IMDG) : 3077
Proper Shipping Name (IMDG) : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Thifensulfuron methyl, Tribenuron Methyl)
Class (IMDG) : 9 - Miscellaneous dangerous substances and articles
Packing group (IMDG) : III - substances presenting low danger

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Marine Pollutant : Yes



Air transport

UN-No. (IATA) : 3077
Proper Shipping Name (IATA) : Environmentally hazardous substance, solid, n.o.s. (Thifensulfuron methyl, Tribenuron Methyl)
Class (IATA) : 9 - Miscellaneous Dangerous Goods
Packing group (IATA) : III - Minor Danger
Marine Pollutant : Yes



SECTION 15: Regulatory information

15.1. US Federal regulations

Thifensulfuron methyl (79277-27-3)

Not listed on the United States TSCA (Toxic Substances Control Act) inventory

Tribenuron methyl (101200-48-0)

Not listed on the United States TSCA (Toxic Substances Control Act) inventory
Subject to reporting requirements of United States SARA Section 313

Silicon dioxide (cristobalite) (14808-60-7)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

Titanium dioxide (13463-67-7)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

15.2. International regulations

CANADA

Thifensulfuron methyl (79277-27-3)

Not listed on the Canadian DSL (Domestic Substances List) inventory.

Tribenuron methyl (101200-48-0)

Not listed on the Canadian DSL (Domestic Substances List) inventory.

Silicon dioxide (cristobalite) (14808-60-7)

Listed on the Canadian DSL (Domestic Substances List) inventory.

Titanium dioxide (13463-67-7)

Listed on the Canadian DSL (Domestic Substances List) inventory.

EU-Regulations

Thifensulfuron methyl (79277-27-3)

Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

Tribenuron methyl (101200-48-0)

Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

Silicon dioxide (cristobalite) (14808-60-7)

Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

Titanium dioxide (13463-67-7)

Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Carc. 1A H350
Aquatic Chronic 1 H410
Full text of H-statements: see section 16

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National regulations

Thifensulfuron methyl (79277-27-3)
Not listed on the Canadian Non-Domestic Substances List (NDSL).
Tribenuron methyl (101200-48-0)
Not listed on the Canadian Non-Domestic Substances List (NDSL).
Silicon dioxide (cristobalite) (14808-60-7)
Listed on IARC (International Agency for Research on Cancer) Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances) Listed on NZIoC (New Zealand Inventory of Chemicals) Listed on the AICS (Australian Inventory of Chemical Substances) Listed on Taiwan National Chemical Inventory Listed on the Korean ECL (Existing Chemicals List) Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory Listed on the Inventory of Existing Chemical Substances Produced or Imported in China (IECSC).
Titanium dioxide (13463-67-7)
Listed on the AICS (Australian Inventory of Chemical Substances) Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China) Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory Listed on KECI (Korean Existing Chemicals Inventory) Listed on Taiwan National Chemical Inventory Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances) Listed on NZIoC (New Zealand Inventory of Chemicals)

15.3. US State regulations

Titanium dioxide (13463-67-7)				
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significant risk level (NSRL)
Yes	No	No	No	
Tribenuron methyl (101200-48-0)				
U.S. - New Jersey - Right to Know Hazardous Substance List				
Silicon dioxide (cristobalite) (14808-60-7)				
U.S. - New Jersey - Right to Know Hazardous Substance List				
Titanium dioxide (13463-67-7)				
U.S. - Minnesota - Hazardous Substance List				
U.S. - New Jersey - Right to Know Hazardous Substance List				

15.4. US EPA – FIFRA Regulations

This chemical is a pesticide product registered by the United States Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets (SDS), and for workplace labels of non-pesticide chemicals. The hazard information required on the pesticide label is reproduced below. The pesticide label also includes other important information, including directions for use.

Signal word (FIFRA)	: Caution.
Hazard statements (FIFRA)	: Causes moderate eye irritation. Avoid contact with eyes, skin, or clothing. Wear protective eyewear.
	Some of the materials that are chemical resistant to this product are listed below. If you want more options follow the instructions for Category A on an EPA chemical resistance category selection chart.
	Applicators and other handlers must wear:
	· Long-sleeved shirt and long pants
	· Chemical-resistant gloves, made of any waterproof material such as polyethylene or polyvinyl chloride.
	· Shoes plus socks
	Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry.

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Environmental hazards : Do not apply directly to water, or to areas where surface water is present, or to intertidal areas below the mean high water mark. Do not contaminate water when cleaning equipment or disposing of equipment washwaters. Do not apply where/when conditions favor runoff.

SECTION 16: Other information

Indication of changes : Original Document.

Data sources : European Chemicals Agency (ECHA) Registered Substances list. Accessed at <http://echa.europa.eu/>.
Kristen Forsberg and S.Z. Mansdorf, "Quick Selection Guide to Chemical Protective Clothing", Fifth Edition.
OSHA 29CFR 1910.1200 Hazard Communication Standard.
TSCA Chemical Substance Inventory. Accessed at <http://www.epa.gov/oppt/existingchemicals/pubs/tscainventory/howto.html>.

Abbreviations and acronyms : ACGIH (American Conference of Government Industrial Hygienists).
ATE: Acute Toxicity Estimate.
CAS (Chemical Abstracts Service) number.
CLP: Classification, Labelling, Packaging.
EC50: Environmental Concentration associated with a response by 50% of the test population.
GHS: Globally Harmonized System (of Classification and Labeling of Chemicals.)
LD50: Lethal Dose for 50% of the test population.
OSHA: Occupational Safety & Health Administration.
STEL: Short Term Exposure Limits.
TSCA: Toxic Substances Control Act.
TWA: Time Weight Average.

Other information : None.

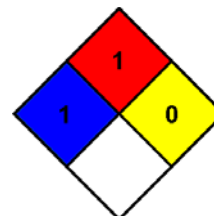
Full text of H-statements:

Aquatic Acute 1	Hazardous to the aquatic environment — Acute Hazard, Category 1
Aquatic Chronic 1	Hazardous to the aquatic environment — Chronic Hazard, Category 1
Carc. 1A	Carcinogenicity, Category 1A
Carc. 2	Carcinogenicity, Category 2
Skin Sens. 1	Sensitisation — Skin, category 1
H317	May cause an allergic skin reaction
H350	May cause cancer
H351	Suspected of causing cancer
H400	Very toxic to aquatic life
H410	Very toxic to aquatic life with long lasting effects

NFPA health hazard : 1 - Exposure could cause irritation but only minor residual injury even if no treatment is given.

NFPA fire hazard : 1 - Must be preheated before ignition can occur.

NFPA reactivity : 0 - Normally stable, even under fire exposure conditions, and not reactive with water.



SDS US (GHS HazCom 2012)

SDS Prepared by: The Redstone Group, LLC.
6077 Frantz Rd.
Suite 206
Dublin, Ohio, USA 43016
614.923.7472
www.redstonegrp.com

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product